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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/501,323

07/15/2004

Kensuke Fujii

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7590

11/17/2008

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
LLP

901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

EXAMINER

KRECK, JOHN J

ART UNIT

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,323	<b>Applicant(s)</b> FUJII ET AL.	
	<b>Examiner</b> John Kreck	<b>Art Unit</b> 3672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,6,7 and 11-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 6, 7, and 11-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

1. Claims 1, 2, 6, 7, and 11-22 are pending.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 6, 7, and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhykerd, et al. (Impact of bulking agents, forced aeration, and tillage on remediation of oil-contaminated soil) and “gardening series”, and further in view of Glaze, et al. (U.S. Patent number 5,593,888) and further in view of Numata, et al. (U.S. Patent number 6,171,844).

Rykerd describes the method including adding a gas phase rate increasing inorganic soil-improving material (vermiculite, page 281, 1<sup>st</sup> paragraph); mixing by agitation, without aerating by introducing injected air (e.g. page 280, last paragraph; “tillage”), while utilizing microbes already present in the soil (page 280, second to last paragraph) .

Rhykerd lacks the claimed perlite. Rhykerd teaches vermiculite, in combination with a low clay soil (page 280, second column, third paragraph).

“Gardening” describes soil amendments for improving soil. The document teaches that perlite is useful for high clay soils in place of vermiculite. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Rhykerd process to have included perlite for use in high clay soils.

Rhykerd also fails to teach the microbes added to the soil.

Glaze (e.g. 10:62-11:2) describes the adding of bacteria. One of ordinary skill in the art would have understood that adding specialized bacteria would have the advantage of speeding remediation of contaminants for which indigenous bacteria are deficient. Glaze (e.g. 10:36 and 29:29) also teaches separate and subsequent addition of bacteria. One of ordinary skill in the art would have understood that the bacteria would distribute better if added separately. In light of the teachings in Glaze, it would have been obvious to one of ordinary skill in the art at the time of the invention to have practiced the Rhykerd process with microbes added to the contaminated soil.

With regards to the newly claimed “thereby resulting in an increased gas phase rate of about 2 times”: It is clear from applicant’s specification that the increased gas phase rate is an inherent result of mixing in perlite. Since it has been found that the mixing in of perlite, per se, is obvious, the increased gas phase rate would inherently follow.

Therefore claim 1 is obvious and unpatentable.

RE claim 2: Glaze (e.g. 10:36 and 29:29) also teaches separate and subsequent addition of bacteria.

Regarding independent claim 6:

Rykerd describes the method including adding a gas phase rate increasing inorganic soil-improving material (vermiculite, page 281, 1<sup>st</sup> paragraph); mixing by agitation, without aerating by introducing injected air (e.g. page 280, last paragraph; “tillage”), and degrading utilizing microbes.

Rhykerd lacks the claimed perlite. Rhykerd teaches vermiculite, in combination with a low clay soil (page 280, second column, third paragraph).

“Gardening” describes soil amendments for improving soil. The document teaches that perlite is useful for high clay soils in place of vermiculite. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Rhykerd process to have included perlite as called for in amended claim 6; for use in high clay soils. Rhykerd also fails to teach the microbes added to the soil.

Glaze (e.g. 10:62-11:2) describes the adding of bacteria. One of ordinary skill in the art would have understood that adding specialized bacteria would have the advantage of speeding remediation of contaminants for which indigenous bacteria are deficient. Glaze (e.g. 10:36 and 29:29) also teaches separate and subsequent addition of bacteria. One of ordinary skill in the art would have understood that the bacteria would distribute better if added separately.

In light of the teachings in Glaze, it would have been obvious to one of ordinary skill in the art at the time of the invention to have practiced the Rhykerd process with microbes added to the contaminated soil.

With regards to the newly claimed “thereby resulting in an increased gas phase rate of about 2 times”: It is clear from applicant’s specification that the increased gas phase rate is an inherent result of mixing in perlite. Since it has been found that the mixing in of perlite, per se, is obvious, the increased gas phase rate would inherently follow.

Therefore, claim 6 is obvious and unpatentable.

RE claim 7: Glaze (e.g. 10:36 and 29:29) also teaches separate and subsequent addition of bacteria.

3. Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhykerd, et al. (Impact of bulking agents, forced aeration, and tillage on remediation of oil-contaminated soil) and “gardening series”, and Glaze, et al. (U.S. Patent number 5,593,888) as applied to claims above, and and further in view of Numata, et al. (U.S. Patent number 6,171,844).

Regarding claims 19-22: Glaze fails to teach the M07, but teaches that any commercial strains may be used.

Numata teaches the use of M07 for degrading trichloroethylene in soil.

One of ordinary skill in the art would have found it obvious to have used M07 with the Rhykerd process, as modified; in order to degrade trichloroethylene in soil.

Therefore claims 19-22 are obvious and unpatentable.

### ***Response to Arguments***

4. Applicant's arguments filed 10/9/08 have been fully considered but they are not persuasive.

Applicant argues that the increasing gas phase rate is not found in the prior art. This is not persuasive, since it is apparent that the increased gas phase rate is an inherent result of mixing in perlite.

Applicant argues that Rhykerd teaches away from the use of inorganic material (i.e. perlite) as a bulking agent. This is not persuasive: there is nothing in Rhykerd disparaging or otherwise teaching away from using inorganic bulking agents. Moreover, Rhykerd plainly discloses that the inorganic agent is just as effective—or more effective—in the long term than organic: *“From weeks 18 onward there were no significant differences in TPH content between vermiculite and hay as bulking agents for any aeration treatment (Fig. 1). Generally these treatments contained less TPH during this time frame than sawdust or the control treatments.”* 282, col. 1, first paragraph under 3.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is 571-272-7042. The examiner can normally be reached on Mon-Fri 6am-3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Kreck/  
Primary Examiner, Art Unit 3672

13 November 2008